SUMMARY TABLE

Component	Т	otal Capital Costs	otal Annual D&M Costs	Pr	Total Net esent Worth
<u>Waste</u>					
Alternative 1 - No Action	\$	-	\$ -	\$	-
Alternative 2 - Removal and Off-Site Disposal	\$	1,798,211	\$ -	\$	1,580,700
<u>Soil/Fill</u>					
Alternative 1 - No Action	\$	-	\$ -	\$	-
Alternative 2 - Institutional Controls and NAPL Removal	\$	303,322	\$ 8,125	\$	356,100
Alternative 3 - Institutional Controls, Engineering Controls, and NAPL Removal	\$	11,177,530	\$ 75,000	\$	10,483,700
Alternative 4 - Institutional Controls, Engineering Controls, Focused Removal with Off-Site Disposal of Lead, and NAPL Removal	\$	13,660,285	\$ 75,000	\$	12,665,900
Alternative 5 - Institutional Controls, In-Situ Remediation, Engineering Controls, and NAPL Removal	\$	15,259,630	\$ 68,750	\$	14,004,000
<u>Groundwater</u>					
Alternative 1 - No Action	\$	-	\$ -	\$	-
Alternative 2 - Institutional Controls, Site Containment at River Edge, and Pump and Treat	\$	30,590,844	\$ 1,125,000	\$	34,258,600
Alternative 3 - Institutional Controls and In-Situ Remediation	\$	28,459,770	\$ 131,250	\$	20,844,800
Alternative 4 - Institutional Controls, Pump and Treat, and Targeted Periodic In-Situ Remediation	\$	12,831,750	\$ 1,500,000	\$	24,234,400
Alternative 5 - Institutional Controls, Site Containment at River Edge and In-Situ Remediation	\$	19,543,022	\$ 131,250	\$	16,326,900
<u>Sewer Water</u>					
Alternative 1 - No Action	\$	-	\$ -	\$	-
Alternative 2 - Removal and Off-Site Disposal	\$	27,981	\$ -	\$	24,900
<u>Soil Gas</u>					
Alternative 1 - No Action	\$	-	\$ -	\$	-
Alternative 2 - Institutional Controls, Air Monitoring or Engineering Controls (existing occupied buildings) and Site-Wide Engineering Controls (future buildings)	\$	123,525	\$ 31,500	\$	449,800
Alternative 3 - Institutional Controls, Site-Wide Engineering Controls (future buildings), and Air Monitoring or Engineering Controls and In-Situ Remediation of Soil/Fill (existing occupied buildings)	\$	4,591,968	\$ -	\$	4,050,800

								unimary or		•										
Net Present Value Factor	7%																			
Discount Rate	7%																			
Inflation Rate	0%																			+
YEAR	COST PV	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Waste - Alternative 2, Removal and Off-Site Disposal																				
TOTAL PRESENT VALUE	\$ 1,580,700		\$ 1,798,211																	
Capital Costs	\$ 1,580,700	s -	\$ 163,474	\$ 1,634,738	s -	ş -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -
Pre-construction Activities		s -	\$ 163,474	9 .	¢ .	۹ .	Ī	Ť	1	1	Ť			-		,	•	1	•	1
Mobilization and Demobilization	\$ 59,500	e	e 100,111	\$ 68,114	e	e	e	e	e	e			e	e	e	e	e	e	e	
Direct Implentation Costs			s -	\$ 1,362,281		s -	s -	s -					s -	s -	s -				s -	s -
Other Indirect Costs		s -	s -	\$ 1,362,281	9 -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		s -	\$ -	s -	s -	s -	\$ -	9 -	
O&M Costs				e 204,042				s -							s .				s .	
Soil/Fill - Alternative 2, Institutional Controls and LNAPL	•	, .	, .	•	, .	, .	, -	, .	, .	, .	, .	, .	, .	, .	, .	3 -		-	, .	,
Removal TOTAL PRESENT VALUE	\$ 356,100																			
			A 50.000					s -			s -	s -				s -	s -			1.
Capital Costs		\$ -	\$ 50,302	\$ 253,020	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-construction Activities		\$ -	\$ 50,302	\$ -	\$ -	\$ -														+
Mobilization and Demobilization		\$ -	\$ -	\$ 10,543		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Implentation Costs		\$ -	\$ -	\$ 210,850	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs	\$ 27,600	\$ -	\$ -	\$ 31,628	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	┼
O&M Costs	\$ 88,100	\$ -	\$ -	\$ -	\$ 8,125	\$ 8,125	\$ 8,125	\$ 8,125	\$ 8,12	5 \$ 8,1	5 \$ 8,1	25 \$ 8,12	5 \$ 8,125	\$ 8,125	\$ 8,125	\$ 8,125	\$ 8,125	\$ 8,125	\$ 8,12	5 \$ 8,125
Soil/Fill - Alternative 3 Institutional Controls, Engineering Controls (Cap, Sheet Pile) and LNAPL Removal																				
TOTAL PRESENT VALUE	\$ 10,483,700																			
Capital Costs		s -	\$ 1.350.230	\$ 9,827,300	s -	ş -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -
Pre-construction Activities		s -	\$ 1,350,230	\$.	¢ .	۹ .	Ī	Ť	1	1	1			1		•	•	1	•	
Mobilization and Demobilization	\$ 350,400		9 -	\$ 401,138	٠ .	٠ .		٠ .		٠ .	٠.		٠ .	٠ .		٠ .	۹ .	٠.	۹ .	
Direct Implentation Costs		e	e	\$ 8,022,750	s -	s -	s -	s -	s -	e	e		s -	s -	s -	e	e	e	s -	s -
Other Indirect Costs		s -		\$ 1,203,412	-	s -	s -	s -	s -				s -	s -	s -					-
				\$ 200,000		s -		s -	3 -	3 -	3 -	,			s -	ā -				
Diamond Alkali OU2 Contingency		\$ -	\$ -	\$ 200,000	3 -		3 -		\$ -	3 -	3 -	3 -	3 -	3 -		\$ -	3 -	3 -	3 -	
O&M Costs Soil/Fill - Alternative 4, Institutional Controls, Engineering Controls (Cap, Sheet Pile), Focused Removal, and LNAPL Removal	\$ 812,900	, .			\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,00	0 \$ 75,0	75,0	00 \$ 75,00	75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	0 \$ 75,000
TOTAL PRESENT VALUE	\$ 12,665,900																			
Capital Costs	\$ 11,853,000	\$ -	\$ 1,575,935	\$ 12,084,350	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ -
Pre-construction Activities	\$ 1,472,800	\$ -	\$ 1,575,935	\$ -	\$ -	\$ -														
Mobilization and Demobilization	\$ 432,500	\$ -	\$ -	\$ 495,181	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -
Direct Implentation Costs	\$ 8,650,200	s -	s -	\$ 9,903,625	s -	s -	s -	s -	s -	s -	\$ -	s -	s -	\$ -	s -	\$ -	s -	s -	s -	s -
Other Indirect Costs		\$ -	\$ -	\$ 1,485,544	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	1
Diamond Alkali OU2 Contingency	\$ 174,700	\$ -	\$ -	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	\$ -	s -	
O&M Costs Soil/Fill - Alternative 5, Institutional Controls, Engineering Controls (Sheet Pile), In-Situ Remediation, and LNAPL	\$ 812,900	\$ -	\$ -	\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,00	0 \$ 75,0	0 \$ 75,0	00 \$ 75,00	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	0 \$ 75,000
Removal TOTAL PRESENT VALUE	£ 44.004.000																			
Capital Costs		\$ -	\$ 1,721,330	\$ 13,538,300	s -	s -	s -	s -	5	\$	s -	s -	s -	s -	s -	s -	s -	s -	s -	\$ -
Pre-construction Activities	\$ 1,608,700	s -		e 13,330,300		s -			, .	-		, -			•	.				ļ* -
			\$ 1,721,330																	1,
Mobilization and Demobilization		\$ -	3 -	\$ 555,763	3 -	3 -	\$ -	\$ -	5 -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	à -	5 -	\$ -	3 -	\$ -
Direct Implentation Costs			\$ -	\$ 11,115,250		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs Diamond Alkali OU2 Contingency			\$ -	\$ 1,667,288		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	+
O&M Costs				\$ 200,000	\$ 68,750	\$ 68,750	\$ 68,750	\$ 68,750	\$ 68,75	0 \$ 687	0 \$ 68,7	50 \$ 68,75	\$ 68,750	\$ 68,750	\$ 68,750	\$ 68,750	\$ 68,750	\$ 68,750	\$ 68.75	0 \$ 68,750
Soil Gas - Alternative 2, Institutional Controls, Monitoring/Engineering Controls, and Site-Wide Engineering Controls	\$ 745,100	•		•	\$ 66,750	\$ 66,750	\$ 66,730	\$ 68,750	\$ 66,73	0 \$ 66,7	\$ 60,7	\$ 66,75	5 66,750	\$ 66,750	\$ 68,750	\$ 66,750	\$ 60,750	\$ 66,750	\$ 60,75	\$ 68,750
TOTAL PRESENT VALUE	\$ 449,800																			
Capital Costs		s -	\$ 8,006	\$ 115,519	s -	s -	s -	\$ -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s -	s .
Pre-construction Activities		s .	\$ 8,006	¢ 110,019	,		†	<u> </u>	· ·	ļ .	<u> </u>	· ·		1						—
			ø 8,006														c		e	
Mobilization and Demobilization			0	\$ 444.075	0	0	\$ -	9 -	9 -	0 -	\$ -	9 -	9 -			s -	o -	0		9 -
Direct Implentation Costs			\$ -	\$ 114,375		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	5 -	\$ -	\$ -	\$ -	\$ -	\$ -	3 -	\$ -	\$ -
Other Indirect Costs			\$ -	\$ 1,144		3 -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	à -	3 -	\$ -	\$ -	
O&M Costs	\$ 341,400	\$ -	\$ -	5 -	\$ 31,500	\$ 31,500	\$ 31,500	\$ 31,500	\$ 31,50	υլ\$ 31,5	0 \$ 31,5	00 \$ 31,50	31,500	\$ 31,500	\$ 31,500	\$ 31,500	\$ 31,500	\$ 31,500	\$ 31,50	0 \$ 31,500

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Net Present Value Factor																								
Discount Rate		1		T																	T			
Inflation Rate																								
YEAR	2020		2040		2044		2042	00	140	2044	00	145	2040		2047	00	240	2040	2050	2054		2052	2052	2054
	2039	-	2040	Н	2041		2042	20)43	2044	20)45	2046		2047	20)48	2049	2050	2051	-	2052	2053	2054
Waste - Alternative 2, Removal and Off-Site Disposal																								
TOTAL PRESENT VALUE																								
Capital Costs	\$ -																							
Pre-construction Activities																								
Mobilization and Demobilization																								
Direct Implentation Costs				T																				
· · · · · · · · · · · · · · · · · · ·																								
Other Indirect Costs				+							1.										+			
O&M Costs Soil/Fill - Alternative 2, Institutional Controls and LNAPL	\$ -	- 1	\$ -	\$	-	\$	•	\$	•	\$ -	\$	•	\$		\$ -	\$	-	\$ -	\$ -	\$ -	\$	-		
Removal																								
TOTAL PRESENT VALUE				Т																				
Capital Costs																								
Pre-construction Activities	•			t																				
		+																						
Mobilization and Demobilization																					+			
Direct Implentation Costs		+																			+			
Other Indirect Costs	 	+		-		 					-			\dashv						1	+			
O&M Costs	\$ 8,12	25	\$ 8,125	\$	8,125	\$	8,125	\$	8,125	\$ 8,125	\$	8,125	\$ 8,1	125	\$ 8,125	\$	8,125	\$ 8,125	\$ 8,125	\$ 8,12	5 \$	8,125		
Soil/Fill - Alternative 3 Institutional Controls, Engineering Controls (Cap, Sheet Pile) and LNAPL Removal																								
		+		F																				
TOTAL PRESENT VALUE																								
Capital Costs	\$ -			1																				
Pre-construction Activities																								
Mobilization and Demobilization																								
Direct Implentation Costs																								
Other Indirect Costs																								
Diamond Alkali OU2 Contingency																								
O&M Costs	\$ 75,00	00	\$ 75,000	e	75,000	e	75,000	s	75,000	\$ 75,000	s	75,000	\$ 75,0	200	\$ 75,000	\$	75,000	\$ 75,000	\$ 75,000	\$ 75,00	n e	75,000		
Soil/Fill - Alternative 4, Institutional Controls, Engineering	\$ 15,00		ψ 10,000	Ť	10,000		70,000	•	10,000	¥ 10,000	,	70,000	\$ 70,0	,00	7 70,000		70,000	¥ 10,000	7 70,000	Ψ 10,00		70,000		
Controls (Cap, Sheet Pile), Focused Removal, and LNAPL Removal																								
TOTAL PRESENT VALUE																								
Capital Costs				ı																				
Pre-construction Activities	•			t																				
		_		+																				
Mobilization and Demobilization																								
Direct Implentation Costs				+																				
Other Indirect Costs		+																			+			
Diamond Alkali OU2 Contingency				4																				
O&M Costs	\$ 75,00	00	\$ 75,000	\$	75,000	\$	75,000	\$	75,000	\$ 75,000	\$	75,000	\$ 75,0	000	\$ 75,000	\$	75,000	\$ 75,000	\$ 75,000	\$ 75,00	0 \$	75,000		
Soil/Fill - Alternative 5, Institutional Controls, Engineering Controls (Sheet Pile), In-Situ Remediation, and LNAPL																								
Removal		4																						
TOTAL PRESENT VALUE		4																						
Capital Costs	\$ -																				\perp			
Pre-construction Activities																								
Mobilization and Demobilization		$\Box \mathbb{I}$		1										_]										
Direct Implentation Costs				Γ										П										
Other Indirect Costs		T																						
Diamond Alkali OU2 Contingency		1																						
O&M Costs	\$ 68,75	50	\$ 68,750		60 7E^	s	68,750	\$	68,750	\$ 68,750	\$	68,750		750	\$ 68,750		60 750	\$ 68,750	\$ 68,750	\$ 68,75		60.750		
O&M Costs Soil Gas - Alternative 2, Institutional Controls,	a 68,75	υU :	a 68,750	\$	68,750	Þ	08,/50	>	08,750	\$ 68,750	,	08,750	\$ 68,7	υC	a 68,/50	\$	68,750	a 68,750	a 68,750	\$ 68,75	N \$	68,750		
Monitoring/Engineering Controls, and Site-Wide																								
Engineering Controls				F																	+			
TOTAL PRESENT VALUE		+																						
Capital Costs	\$ -	_									-										+			
Pre-construction Activities		4																						
Mobilization and Demobilization																					\perp			
Direct Implentation Costs																								
Other Indirect Costs		T																						
O&M Costs		00	\$ 31,500	s	31,500	s	31,500	s	31,500	\$ 31,500	\$	31,500	\$ 31,5	500	\$ 31,500	\$	31,500	\$ 31,500	\$ 31,500	\$ 31,50	0 \$	31,500		
Odini Custs	7 01,00		+ 31,000	۳	01,000		J.,000	¥	,000	J 01,000	1 7	,000	y 01,0		- 51,000	,	,000	+ 01,000	7 01,000	, v 01,00	۳ ر	0 1,000		

YEAR	0007.01/	2000					0004														2000
Soil Gas - Alternative 3, Institutional Controls, Site-Wide	COST PV	2020	2021	20	22	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Engineering Controls, and In-Situ Remediation																					
TOTAL PRESENT VALUE	\$ 4,050,800																				
Capital Costs			\$ 653,90	4 \$ 3,9	38,064	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ -	s -	\$ -	ş -	ş -	ş -	\$ -
Pre-construction Activities	\$ 611,100	s -	\$ 653,904	4 \$	-	s -	s -														
Mobilization and Demobilization			\$ -		168,293	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -
Direct Implentation Costs		s -	\$ -	\$ 3,3	865,867	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs	\$ 352,800	s -	\$ -	\$ 4	103,904	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	
O&M Costs	\$ -	s -	s -	\$		s -	s -	s -	s -	s -	s -	s -	s -	ş -	s -	s -	s -	s -	s -	ş -	s -
Sewer Water - Alternative 2, Removal and Off-Site Disposal																					
TOTAL PRESENT VALUE	\$ 24,900																				
Capital Costs	\$ 24,900	\$ -	\$ 6,60	6 \$	21,375	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-construction Activities	\$ 6,200	\$ -	\$ 6,600	6 \$	-	\$ -	\$ -														
Mobilization and Demobilization	\$ 800	\$ -	\$ -	\$	891	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Implentation Costs	\$ 15,600	\$ -	\$ -	\$	17,813	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs	\$ 2,300	\$ -	\$ -	\$	2,672	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
O&M Costs	\$ -	\$ -	ş -	\$		\$ -	ş <u>-</u>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	ş -	\$ -
Groundwater - Alternative 2, Institutional Controls, Containment at River, and Pump and Treat																					
TOTAL PRESENT VALUE	\$ 34,258,600																				
Capital Costs	\$ 23,608,500	ş -	\$ 1,261,84	4 \$ 1,2	261,844	\$ 1,261,844	\$ 26,805,313	\$ -	\$ -	\$ -	\$ -	ş -	\$ -	ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-construction Activities	\$ 3,311,500	\$ -	\$ 1,261,844	4 \$ 1,2	261,844	\$ 1,261,844	\$ -														
Mobilization and Demobilization	\$ 845,700	\$ -	\$ -	\$	-	\$ -	\$ 1,108,555	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Implentation Costs	\$ 16,914,200	\$ -	\$ -	\$	-	\$ -	\$ 22,171,094	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs	\$ 2,537,100	s -	\$ -	\$	-	\$ -	\$ 3,325,664	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Diamond Alkali OU2 Contingency	\$ 152,600	\$ -	\$ -	\$		\$ -	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
O&M Costs	\$ 10,650,100	ş -	ş -	\$	-	\$ -	ş -	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,00	\$ 1,125,000	\$ 1,125,000
Groundwater - Alternative 3, Institutional Controls and In- Situ Remediation																					
TOTAL PRESENT VALUE	\$ 20,844,800																				
Capital Costs	\$ 19,602,300	\$ -	\$ 1,051,81	1 \$ 1,0	51,811	\$ 1,051,811	\$ 14,894,343	\$ -	\$ -	\$ -	\$ 6,939,996	\$ -	\$ -	\$ -	\$ -	\$ 3,469,998	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-construction Activities	\$ 2,760,300	\$ -	\$ 1,051,81	1 \$ 1,0	51,811	\$ 1,051,811	\$ -														
Mobilization and Demobilization	\$ 804,400	\$ -	\$ -	\$	-	\$ -	\$ 1,054,347	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Implentation Costs	\$ 13,624,500	\$ -	\$ -	\$	-	\$ -	\$ 10,676,953	\$ -	\$ -	\$ -	\$ 6,939,996	\$ -	\$ -	\$ -	\$ -	\$ 3,469,998	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs	\$ 2,413,100	\$ -	\$ -	\$	-	\$ -	\$ 3,163,042	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
O&M Costs	\$ 1,242,500	\$ -	ş -	\$	-	\$ -	\$ -	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,25	\$ 131,250	\$ 131,250
Groundwater - Alternative 4, Institutional Controls, Targeted Pump and Treat, and Targeted Periodic In-Situ Remediation																					
TOTAL PRESENT VALUE	\$ 24,234,400																				
Capital Costs		\$ -	\$ 729,75	0 \$ 7	29,750	\$ 729,750	\$ 10,642,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-construction Activities	\$ 1,915,100	\$ -	\$ 729,75	0 \$ 7	29,750	\$ 729,750	\$ -														
Mobilization and Demobilization	\$ 338,300	\$ -	\$ -	\$	-	\$ -	\$ 443,438	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Implentation Costs	\$ 6,765,900	\$ -	\$ -	\$	-	\$ -	\$ 8,868,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Indirect Costs	\$ 1,014,900	\$ -	\$ -	\$	-	\$ -	\$ 1,330,313	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
O&M Costs	\$ 14,200,200	\$ -	\$ -	\$		\$ -	\$ -	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,00	\$ 1,500,000	\$ 1,500,000
Groundwater - Alternative 5, Institutional Controls, Site Containment at River Edge and In-Situ Remediation																					
TOTAL PRESENT VALUE	\$ 16,326,900																				
	φ 10,320,300						1	s -	s -	s -	\$ 245,859	s -	s -	s -	s -	\$ 122,929	s -	s -	s -	s -	\$ -
Capital Costs		\$ -	\$ 781,60	7 \$ 7	781,607	\$ /81,60/	\$ 16,829,414	, .	, .	, .	ş 245,055	*	-	*	•	♥ 122,323	*	*		-	
Capital Costs Pre-construction Activities	\$ 15,084,400		\$ 781,60°	_		\$ 781,607 \$ 781,607		, .	, .	, .	\$ 243,039	•	*	•	•	¥ 122,323	•	•	•	•	
	\$ 15,084,400 \$ 2,051,200	\$ -		_					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -
Pre-construction Activities	\$ 15,084,400 \$ 2,051,200 \$ 546,700	\$ - \$ -		_			\$ -	\$ -	·	\$ -	\$ - \$ 245,859	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ 122,929	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
Pre-construction Activities Mobilization and Demobilization	\$ 15,084,400 \$ 2,051,200 \$ 546,700 \$ 10,846,400	\$ - \$ - \$ -		_	781,607 - -	\$ 781,607 \$ -	\$ - \$ 716,591	\$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ 245,859 \$ -	\$ - \$ - \$ -	\$ - \$ 122,929 \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ -	\$ - \$ - \$ -			

Was																				
YEAR	4	2039	+	2040		2041	2042	204	13	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
Soil Gas - Alternative 3, Institutional Controls, Site-Wide Engineering Controls, and In-Situ Remediation																				
TOTAL PRESENT VALUE																				
Capital Costs	\$	-	+																	
Pre-construction Activities			_																	
Mobilization and Demobilization	ı																			
Direct Implentation Costs																				
Other Indirect Costs																				
O&M Costs	\$	-	\$			s -	s -	\$		s -	s -	\$ -	\$ -	s -	\$ -	s -	\$ -	\$ -		
Sewer Water - Alternative 2, Removal and Off-Site Disposal																				
TOTAL PRESENT VALUE																				
Capital Costs																				
·	Ť																			
Pre-construction Activities			+																	
Mobilization and Demobilization			+																	
Direct Implentation Costs			+																	
Other Indirect Costs			1					1					1					-		<u> </u>
O&M Costs	\$		\$		-	\$ -	\$ -	\$		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Groundwater - Alternative 2, Institutional Controls, Containment at River, and Pump and Treat																				
TOTAL PRESENT VALUE																				
Capital Costs	s																			
Pre-construction Activities	Ì																			
Mobilization and Demobilization			+																	
			+																	
Direct Implentation Costs			+																	
Other Indirect Costs			+																	
Diamond Alkali OU2 Contingency	,																			
O&M Costs	\$ 1	,125,00	0 \$	1,125,	000	\$ 1,125,000	\$ 1,125,000	\$ 1,12	5,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000	\$ 1,125,000
Groundwater - Alternative 3, Institutional Controls and In- Situ Remediation																				
TOTAL PRESENT VALUE																				
Capital Costs		-																		
Pre-construction Activities																				
	s		s																	
Mobilization and Demobilization			+		-															
Direct Implentation Costs		-	\$		-															
Other Indirect Costs	\$	-	_																	
O&M Costs	\$	131,25	0 \$	131,	250	\$ 131,250	\$ 131,250	\$ 13	1,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250
Groundwater - Alternative 4, Institutional Controls, Targeted Pump and Treat, and Targeted Periodic In-Situ Remediation																				
TOTAL PRESENT VALUE																				
Capital Costs	\$		\perp																	
Pre-construction Activities																				
Mobilization and Demobilization	\$		\$		-															
Direct Implentation Costs			s																	
Other Indirect Costs			1																	
		-		4 500	200	A 4 F00 00°	A 4 F00 000		0.000	A 4 F00 00-				A 4 F00 000		A 4 F00 07	A 4 F00 07	* 4 ***	A 4 F00 05	A 4 F00 000
O&M Costs Groundwater - Alternative 5, Institutional Controls, Site Containment at River Edge and In-Situ Remediation	\$ 1	,500,00	0 \$	1,500,	000	\$ 1,500,000	\$ 1,500,000	\$ 1,50	0,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
TOTAL PRESENT VALUE																				
Capital Costs		-	T																	
Pre-construction Activities			t																	
			+																	
Mobilization and Demobilization		-	\$		-															
Direct Implentation Costs		-	\$		-															
Other Indirect Costs			1					-					1							
O&M Costs	\$	131,25	0 \$	131,	250	\$ 131,250	\$ 131,250	\$ 13	1,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250	\$ 131,250

TABLE B-W1 - PRELIMINARY COST ESTIMATE WASTE - ALTERNATIVE 1 NO ACTION

Component	l Unit l		Estimated Unit Cost	Estimated Capital Cost	Estimated Annual O&M Cost		
Capital Costs							
Direct Implementation Costs				\$ -			
		Subt	otal - Direct Costs	\$ -			
Indirect Costs							
Remedial Design	(:	10% of Direct Cost	ts)	\$ -			
Mobilization/Misc. Site Prep	(5% of Direct Costs	5)	\$ -			
Site Administration	(5% of Direct Costs	5)	\$ -			
Permitting/Legal Costs	(2% of Direct Costs	5)	\$ -			
Construction Management/Oversight	(:	10% of Direct Cost	rs)	\$ -			
		Subtot	al - Indirect Costs	\$ -			
	Contingend	cy - 25% of Direct a	and Indirect Costs	\$ -			
		To	otal Capital Costs	\$ -			
Operation and Maintenance Costs							
					\$ -		
		Subt	total - O&M Costs		\$ -		
	Contin	igency Reserve - 2	5% of O&M Costs		\$ -		
		Total A	nnual O&M Costs		\$ -		
	Net Pr	esent Worth of Aı	nnual O&M Costs	\$ -			
Total Net Present	Total Net Present Worth of Alternative						

TABLE B-W2 - PRELIMINARY COST ESTIMATE WASTE - ALTERNATIVE 2 REMOVAL AND OFF-SITE DISPOSAL

Component	Estimated Quantity	Unit	Est	imated Unit Cost	Esti	imated Capital Cost	Estimated Annual O&M Cost			
Capital Costs										
Direct Implementation Costs										
Consolidation/Containerization of Wastes	1	LS	\$	25,000	\$	25,000				
UST Removal/Disposal	6	Ea	\$	15,000	\$	90,000				
Impacted Soil Removal at USTs	3,500	CY	\$	22	\$	77,000				
Clean Backfill (provide/place/compact)	5,600	Ton	\$	60	\$	336,000				
6" Gravel Surface at NAPL Footprint	800	SY	\$	18	\$	14,400				
Waste Disposal, UST Soil (T&D)	5,800	Ton	75	\$	435,000					
Waste Disposal, Non-haz liquids (T&D)	34,700	Gal	\$	0.25	\$	8,675				
Waste Disposal, LNAPLs (T&D)	4,500	Gal	\$	1	\$	4,500				
Waste Disposal, Non-haz solids/tanks (T&D)	30	Ton	\$	75	\$	2,250				
Soil Treatment for Disposal	880	Ton	\$	25	\$	22,000				
Water Management/Disposal	1	LS	\$	55,000	\$	55,000				
UST Closure Sampling/Reporting	1	LS	\$	20,000	\$	20,000				
		Subt	otal -	- Direct Costs	\$	1,089,825				
Indirect Costs										
Remedial/Geotechnical Design	(1	10% of Direct Cos	ts)		\$	108,983				
Mobilization/Misc. Site Prep	(5% of Direct Cost	s)		\$	54,491				
Site Administration	(5% of Direct Cost	s)		\$	54,491				
Permitting/Legal Costs	(:	2% of Direct Cost	s)		\$	21,797				
Construction Management/Oversight	(1	10% of Direct Cos	ts)		\$	108,983				
		Subto	tal - I	ndirect Costs	\$	348,744				
	Contingenc	y - 25% of Direct	and I	ndirect Costs	\$	359,642				
	_	Т	otal	Capital Costs	\$	1,798,211				
Operation and Maintenance Costs										
							\$ -			
		Sub	total	- O&M Costs			\$ -			
	Contin	gency Reserve - 2	25% o	of O&M Costs			\$ -			
		Total A	nnua	I O&M Costs			\$ -			
	Net Present Worth of Annual O&M Cos									
Total Net Present Wor	th of Alternative				\$	1,580,700				

TABLE B-SF1 - PRELIMINARY COST ESTIMATE SOIL/FILL - ALTERNATIVE 1 NO ACTION

Component	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Capital Cost	Estimated Annual O&M Cost
Capital Costs					
Direct Implementation Costs					
		Subt	otal - Direct Costs	\$ -	
Indirect Costs					
Remedial Design	(10% of Direct Cost	s)	\$ -	
Mobilization/Misc. Site Prep	((5% of Direct Costs	5)	\$ -	
Site Administration	((5% of Direct Costs	5)	\$ -	
Permitting/Legal Costs	((2% of Direct Costs	s)	\$ -	
Construction Management/Oversight	()	10% of Direct Cost	s)	\$ -	
		Subto	tal - Indirect Costs	\$ -	
	Contingen	cy - 25% of Direct	and Indirect Costs	\$ -	
		Т	otal Capital Costs	\$ -	
Operation and Maintenance Costs					
Site Inspections/Maintenance					\$ -
Five-Year Reviews					\$ -
		Sub	total - O&M Costs		\$ -
	Conti	ngency Reserve - 2	5% of O&M Costs		\$ -
		Total A	nnual O&M Costs		\$ -
	Net Pi	resent Worth of A	nnual O&M Costs	\$ -	
Total Net Prese	ent Worth of Alte	rnative		\$ -	

TABLE B-SF2 - PRELIMINARY COST ESTIMATE SOIL/FILL - ALTERNATIVE 2 INSTITUTIONAL CONTROLS AND NAPL REMOVAL

Component	Estimated Quantity	Unit	Est	timated Unit Cost	Estir	nated Capital Cost	nated D&M Cost
Capital Costs							
Direct Implementation Costs							
Deed Restrictions (legal/filing)	15	Lots	\$	4,000	\$	60,000	
Fencing Enhancements	1,000	LF	\$	20	\$	20,000	
NAPL Removal			•				
Excavate/Load Soil/Fill	310	CY	\$	15	\$	4,650	
Waste Disposal, Petroleum-impacted (T&D)	510	Ton	\$	75	\$	38,250	
Soil Treatment	510	Ton	\$	25	\$	12,750	
Clean Backfill (provide/place/compact)	510	Ton	\$	60	\$	30,600	
6" Gravel Surface at NAPL Footprint	135	SY	\$	18	\$	2,430	
	1	Sub	total	- Direct Costs	\$	168,680	
Indirect Costs							
Predesign Investigation		Lump Sum			\$	20,000	
Remedial Design	(:	10% of Direct Cost	ts)		\$	16,868	
Mobilization/Misc. Site Prep		(5% of Direct Cost	s)		\$	8,434	
Site Administration		(5% of Direct Cost	s)		\$	8,434	
Permitting/Legal Costs		(2% of Direct Cost	s)		\$	3,374	
Construction Management/Oversight	(:	10% of Direct Cost	ts)		\$	16,868	
		Subto	tal - I	Indirect Costs	\$	73,978	
	Contingen	cy - 25% of Direct	and	Indirect Costs	\$	60,664	
		7	otal	Capital Costs	\$	303,322	
Operation and Maintenance Costs							
Site Inspections/Maintenance	1	Annual	\$	1,500			\$ 1,500
Five-Year Reviews	1	Annualized	\$	5,000			\$ 5,000
		Sub	total	l - O&M Costs			\$ 6,500
	Conti	ngency Reserve - 2	25% d	of O&M Costs			\$ 1,625
		Total A	nnua	al O&M Costs			\$ 8,125
	Net Pr	esent Worth of A	nnua	al O&M Costs	\$	88,100	
Total Net Present Wort	th of Alternative				\$	356,100	

TABLE B-SF3 - PRELIMINARY COST ESTIMATE SOIL/FILL - ALTERNATIVE 3 INSTITUTIONAL CONTROLS, ENGINEERING CONTROLS, AND NAPL REMOVAL

Component	Estimated Quantity	Unit	Es	timated Unit Cost	Esti	mated Capital Cost	Estimated Annual O&M Cost
Capital Costs		<u>I</u>					
Direct Implementation Costs							
Deed Restrictions (legal/filing)	15	Lots	\$	4,000	\$	60,000	
Fencing Enhancements	1,000	LF	\$	20	\$	20,000	
Site Preparation		ı					
Clear Vegetation	0.5	Ac	\$	1,500	\$	750	
Asphalt and Debris Removal	1	LS	\$	25,000	\$	25,000	
Asphalt and Debris Disposal (T&D)	7800	Ton	\$	75	\$	585,000	
Asphalt Cap			•				
Regrade as needed to level surface	2000	CY	\$	20	\$	40,000	
Base gravel - 6"	27,200	SY	\$	18	\$	489,600	
Bituminous concrete - 6"	27,200	SY	\$	48	\$	1,305,600	
Seal coating	27,200	SY	\$	1.25	\$	34,000	
NAPL Removal		•	•				
Excavate/Load Soil/Fill	310	CY	\$	15	\$	4,650	
Waste Disposal, Petroleum-impacted (T&D)	510	Ton	\$	75	\$	38,250	
Soil Treatment	510	Ton	\$	25	\$	12,750	
Clean Backfill (provide/place/compact)	510	Ton	\$	60	\$	30,600	
Vertical Barrier		ı					
Temporary Silt Screens in river	1	LS	\$	25,000	\$	25,000	
Old Wall Excavation (non soil/fill debris)	240	CY	\$	50	\$	12,000	
Decontamination and Disposal of Old Wall (non-soil/fill debris, T&D)	400	Ton	\$	250	\$	100,000	
Sheet Pile Installation (800' x 30')	24,000	SF	\$	150	\$	3,600,000	
Seal inactive wall pipes	1	LS	\$	35,000	\$	35,000	
		Sub	total	- Direct Costs	\$	6,418,200	
Indirect Costs							
Geotechnical Investigation		Lump Sum			\$	60,000	
Predesign Investigation/Soil Delineation		Lump Sum			\$	250,000	
Remedial/Geotechnical Design	(:	10% of Direct Cos	sts)		\$	641,820	
Mobilization/Misc. Site Prep		5% of Direct Cos	ts)		\$	320,910	
Site Administration		5% of Direct Cos	ts)		\$	320,910	
Permitting/Legal Costs		2% of Direct Cos	ts)		\$	128,364	
Construction Management/Oversight	(:	10% of Direct Co	sts)		\$	641,820	
		Subto	otal -	Indirect Costs	\$	2,363,824	
		Diamond Alkal	i OU2	2 Contingency	\$	200,000	
	Contingend	cy - 25% of Direct	and	Indirect Costs	\$	2,195,506	
	1		Total	Capital Costs	\$	11,177,530	
Operation and Maintenance Costs		İ	1				
Site Inspections/Maintenance	4	Qtr	\$	5,000			\$ 20,000
Renew Top Coat every 10 yrs (annualized cost)	1	annualized	\$	35,000			\$ 35,000
Five-Year Reviews	1	annualized	\$	5,000			\$ 5,000
				I - O&M Costs			\$ 60,000
	Contin	igency Reserve -	25% (of O&M Costs			\$ 15,000
		Total A	Annua	al O&M Costs			\$ 75,000
		esent Worth of A	Annua	al O&M Costs	\$	812,900	
Total Net Present Wor	th of Alternative				\$	10,483,700	

TABLE B-SF4 - PRELIMINARY COST ESTIMATE SOIL/FILL - ALTERNATIVE 4

INSTITUTIONAL CONTROLS, ENGINEERING CONTROLS, FOCUSED REMOVAL WITH

Estimated Estimated Unit Estimated Capital Estimated Unit Quantity Cost Cost Annual O&M Cost Capital Costs **Direct Implementation Costs** Deed Restrictions (legal/filing) 15 Lots 4,000 \$ 60,000 1,000 20 \$ 20,000 **Fencing Enhancements** Site Preparation Clear Vegetation 0.5 \$ 1,500 \$ 750 Ac \$ Asphalt and Debris Removal 1 LS 25,000 \$ 25,000 Asphalt and Debris Disposal (T&D) 7800 Ton \$ 75 \$ 585,000 Asphalt Cap Regrade as needed to level surface 2000 CY 20 \$ 40,000 \$ Base gravel - 6" Ś 18 489,600 27.200 SY \$ Bituminous concrete - 6" 24,800 SY 48 \$ 1,190,400 Seal coating 24,800 SY 1.25 \$ 31,000 NAPL Removal \$ Excavate/Load Soil/Fill 310 CY 15 4,650 510 Ton \$ 75 \$ Waste Disposal, Petroleum-impacted (T&D) 38,250 510 \$ 25 Ton \$ Soil Treatment 12,750 \$ 510 Ton 60 Clean Backfill (provide/place/compact) \$ 30,600 Vertical Barrier Temporary Silt Screens in river LS 25,000 \$ 25,000 1 Old Wall Excavation (non soil/fill debris) 240 CY 50 \$ 12,000 Decontamination and Disposal of Old Wall (non-400 Ton \$ 250 \$ 100,000 soil/fill debris, T&D) 3,600,000 Sheet Pile Installation (800' x 30') 24,000 \$ SF 150 Ś Seal inactive wall pipes 1 LS \$ 35,000 35,000 Limited Excavation/Disposal Foundation Protection During Excavation 200,000 \$ 200,000 LS 1 \$ 76,500 Excavate/load soils 5,100 \$ 15 CY 8,415 75 \$ 631,125 Disposal of soils (non-haz, T&D) Ton \$ 8.415 25 210.375 Soil Treatment for Disposal Ton Clean Backfill (provide/place/compact) 8,415 60 504,900 Subtotal - Direct Costs 7,922,900 Indirect Costs Lump Sum Geotechnical Investigation 60,000 Predesign Investigation/Soil Delineation Lump Sum \$ 250,000 (10% of Direct Costs) \$ 792,290 Remedial Design Mobilization/Misc. Site Prep (5% of Direct Costs) 396,145 (5% of Direct Costs) Ś Site Administration 396.145 Permitting/Legal Costs (2% of Direct Costs) \$ 158,458 Oversight/Post-Ex Sampling (10% of Direct Costs) 792,290 Subtotal - Indirect Costs \$ 2,845,328 Diamond Alkali OU2 Contingency 200,000 Contingency - 25% of Direct and Indirect Costs 2,692,057 **Total Capital Costs** 13,660,285 Operation and Maintenance Costs Site Inspections/Maintenance 20,000 Ś 5.000 4 Qtr Renew Top Coat every 10 yrs (annualized cost) annualized \$ 35,000 1 35,000 Five-Year Reviews annualized 5,000 5,000 1 Subtotal - O&M Costs 60,000 Contingency Reserve - 25% of O&M Costs 15,000 **Total Annual O&M Costs** 75,000 Net Present Worth of Annual O&M Costs 812,900 \$ **Total Net Present Worth of Alternative** \$ 12,665,900

TABLE B-SF5 - PRELIMINARY COST ESTIMATE SOIL/FILL - ALTERNATIVE 5 INSTITUTIONAL CONTROLS, IN-SITU REMEDIATION, ENGINEERING CONTROLS, AND NAPL REMOVAL

Component	Estimated Quantity	Unit	Esti	mated Unit Cost	Esti	mated Capital Cost	Estimated Annu O&M Cost
apital Costs			-				
Direct Implementation Costs							
Deed Restrictions (legal/filing)	15	Lots	\$	4,000	\$	60,000	
Fencing Enhancements	1,000	LF	\$	20	\$	20,000	
Site Preparation		·	•				
Clear Vegetation	0.5	Ac	\$	1,500	\$	750	
Asphalt and Debris Removal	1	LS	\$	25,000	\$	25,000	
Asphalt and Debris Disposal (T&D)	7800	Ton	\$	75	\$	585,000	
NAPL Removal		ı					
Excavate/Load Soil/Fill	310	CY	\$	15	\$	4,650	
Waste Disposal, Petroleum-impacted (T&D)	510	Ton	\$	75	\$	38,250	
Soil Treatment	510	Ton	\$	25	\$	12,750	
Clean Backfill (provide/place/compact)	510	Ton	\$	60	\$	30,600	
Vertical Barrier		į	Ī				
Temporary Silt Screens in river	1	LS	\$	25,000	\$	25,000	
Old Wall Excavation (non soil/fill debris)	240	CY	\$	50	\$	12,000	
Decontamination and Disposal of Old Wall (non- soil/fill debris, T&D)	400	Ton	\$	250	\$	100,000	
Sheet Pile Installation (800' x 30')	24,000	SF	\$	150	\$	3,600,000	
Seal inactive wall pipes	1	LS	\$	35,000	\$	35,000	
In-Situ Treatment		ı	•				
Excavate top 18"	5100	CY	\$	15	\$	76,500	
Dispose top 18" (T&D)	8,420	Ton	\$	75	\$	631,500	
Regrade as needed to level surface	500	CY	\$	20	\$	10,000	
Insitu Solidification and Stabilization	30,500	CY	\$	60	\$	1,830,000	
Base gravel - 6"	27,200	SY	\$	18	\$	489,600	
Bituminous concrete - 6"	27,200	SY	\$	48	\$	1,305,600	
	•	Sub	total -	Direct Costs	\$	8,892,200	
Indirect Costs							
Geotechnical Investigation		Lump Sum			\$	60,000	
Predesign Investigation/Soil Delineation		Lump Sum			\$	250,000	
Remedial Design, incl. treatability testing	(10% of Direct Cos	sts)		\$	889,220	
Mobilization/Misc. Site Prep		(5% of Direct Cos	ts)		\$	444,610	
Site Administration		(5% of Direct Cos	ts)		\$	444,610	
Permitting/Legal Costs		(2% of Direct Cos	ts)		\$	177,844	
Constr. Mgmt/Oversight/Post-Ex Sampling	(10% of Direct Co	sts)		\$	889,220	
		Subto	tal - Ir	ndirect Costs	\$	3,155,504	
		Diamond Alkal	i OU2	Contingency	\$	200,000	
	Contingen	cy - 25% of Direct	and Ir	ndirect Costs	\$	3,011,926	
			Total (Capital Costs	\$	15,259,630	
peration and Maintenance Costs							
Site Inspections/Maintenance	4	Qtr	\$	3,750			\$ 15,00
Renew Top Coat every 10 yrs	1	annualized	\$	35,000			\$ 35,00
Five-Year Reviews	1	annualized	\$	5,000			\$ 5,00
	1	Sul	ototal	- O&M Costs			\$ 55,00
	Contir	ngency Reserve -	25% o	f O&M Costs			\$ 13,75
		Total A	\nnua	O&M Costs			\$ 68,75
	Net Pr	resent Worth of A	\nnua	O&M Costs	\$	745,100	
Total Net Present Wor	th of Alternative				\$	14,004,000	

TABLE B-GW1 - PRELIMINARY COST ESTIMATE GROUNDWATER - ALTERNATIVE 1 NO ACTION

Component	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Capit	tal Estimated Annual O&M Cost
<u>Capital Costs</u>					
Direct Implementation Costs				\$	-
		Subt	total - Direct Costs	\$	-
Indirect Costs					
Remedial Design	(10% of Direct Cos	ts)	\$	-
Mobilization/Misc. Site Prep		(5% of Direct Cost	s)	\$	-
Site Administration		(5% of Direct Cost	s)	\$	-
Permitting/Legal Costs		(2% of Direct Cost	s)	\$	-
Construction Management/Oversight	(10% of Direct Cos	ts)	\$	-
		Subto	tal - Indirect Costs	\$	-
	Contingen	cy - 25% of Direct	and Indirect Costs	\$	-
		7	otal Capital Costs	\$	-
Operation and Maintenance Costs					
Site Inspections/Maintenance					\$ -
Five-year Reviews (annualized cost)					\$ -
		Sub	total - O&M Costs		\$ -
	Conti	ngency Reserve - 2	25% of O&M Costs		\$ -
		Total A	nnual O&M Costs		\$ -
	Net Pr	esent Worth of A	nnual O&M Costs	\$	-
Total Net Preser	t Worth of Alternative			\$	=

TABLE B-GW2 - PRELIMINARY COST ESTIMATE GROUNDWATER - ALTERNATIVE 2

INSTITUTIONAL CONTROLS, CONTAINMENT AT RIVER AT RIVER EDGE, AND PUMP AND TREAT

Component	Estimated Quantity	Unit	Est	imated Unit Cost	Estir	nated Capital Cost	ted Annua M Cost
Capital Costs			<u> </u>				
Direct Implementation Costs							
CEA/WRA Submissions	1	LS	\$	75,000	\$	75,000	
Year 1 Groundwater Monitoring	4	LS	\$	45,000	\$	180,000	
Sheet Pile Containment Installation	70,000	SF	\$	150	\$	10,500,000	
Fill Between Old and New Wall	975	CY	\$	125	\$	121,875	
Extraction Well, pump, riser, well head, pump	20	EA	\$	2,500	\$	50,000	
Conveyance Trenching/Fill	2,500	LF	\$	40	\$	100,000	
Piping, conduit, wiring, instrumentation	30,000	LF	\$	37	\$	1,110,000	
Treatment Building, Pad, Utilities	7,500	SF	\$	250	\$	1,875,000	
Utilities (sewer, water, electrical)	1	LS	\$	100,000	\$	100,000	
Discharge line 200 gpm Treatment System (includes equipment, installation, labor)	500	LF	\$	150	\$	75,000	
Process Water Tanks	1	LS	\$	150,000	Ś	150,000	
Oxidation System	1	LS	\$	500,000		500,000	
Filtration Units	1	LS	\$	400,000		400,000	
Metals Precipitaion System	1	LS	\$	275,000		275,000	
Sludge Processing	1	LS	\$	150,000		150,000	
Carbon Adsorption Units	1	LS	\$	250,000		250,000	
Pumps and Piping	1	LS	\$	150,000		150,000	
Electrical, Instrumentation, Controls	1	LS	\$	1,500,000		1,500,000	
Chemical Feed System	1	LS	\$	175,000		175,000	
chemical reed System			_	- Direct Costs	7	\$17,736,875	
Indirect Costs							
Predesign Investigation		Lump Sum			\$	750,000	
Geotechnical Investigation		Lump Sum			\$	150,000	
Remedial Design		10% of Direct Co	sts)		\$	1,773,688	
Mobilization/Misc. Site Prep		(5% of Direct Co			\$	886,844	
Site Administration		(5% of Direct Co			\$	886,844	
Permitting/Legal Costs		(2% of Direct Co			\$	354,738	
Construction Management/Oversight		10% of Direct Co			\$	1,773,688	
construction management, o tensign	<u>'</u>			ndirect Costs		6,575,800	
		Diamond Alka				200,000	
	Contingen	cy - 25% of Direc				6,078,169	
	contingen			Capital Costs	_	30,590,844	
Operation and Maintenance Costs			1		_	30,550,511	
Routine Groundwater Monitoring	2	event	\$	45,000			\$ 90,000
Biennial Sampling Per CEA (annualized costs)	1	event	\$	10,000			\$ 10,000
Treatment System		i					
Utilities	1	LS	\$	150,000			\$ 150,000
Chemicals (oxidant, pH adjustment, etc.)	1	LS	\$	50,000			\$ 50,000
Carbon Changeout	1	LS	\$	50,000			\$ 50,000
Sludge/Waste Management	1	LS	\$	50,000			\$ 50,000
Routine O&M (staffed 40 hrs per wk)	1	LS	\$	320,000			\$ 320,000
Non Routine Maintenance	1	LS	\$	25,000			\$ 25,000
Performance Sampling	1	LS	\$	150,000			\$ 150,00
Five-Year Reviews	1	annualized	\$	5,000			\$ 5,00
		Su	btotal	- O&M Costs			\$ 900,00
	Conti	ngency Reserve -	25% c	of O&M Costs			\$ 225,00
		Total	Annua	I O&M Costs			\$ 1,125,00
	Net Pi	resent Worth of	Annua	I O&M Costs	\$	10,650,100	
Total Net Present Wo	rth of Alternative				\$	34,258,600	

TABLE B-GW3 - PRELIMINARY COST ESTIMATE GROUNDWATER - ALTERNATIVE 3 INSTITUTIONAL CONTROLS AND IN-SITU REMEDIATION

Component	Estimated Unit Estimated Unit Cost				Estin	Estimated Capital Cost		nated Annual &M Cost
<u>Capital Costs</u>		•						
Direct Implementation Costs								
CEA/WRA Submissions	1	LS	\$	75,000	\$	75,000		
1st Year Groundwater Monitoring	4	Event	\$	45,000	\$	180,000		
Initial Chemical Treatment (organics)	1,622,250	LB	\$	1.75	\$	2,838,938		
Initial Chemical Treatment (inorganics)	1,954,500	LB	\$	2.25	\$	4,397,625		
Inject labor/equipment	300	Day	\$	3,500	\$	1,050,000		
Round 2 Injections (67% , chemicals and labor)	1	LS	\$	5,551,997	\$	5,551,997		
Round 3 Injections (33% , chemicals and labor)	1	LS	\$	2,775,998	\$	2,775,998		
		Subt	otal	- Direct Costs		\$16,869,558		
Indirect Costs								
Predesign Investigation		Lump Sum			\$	500,000		
Remedial Design	(10% of Direct Cost	ts)		\$	1,686,956		
Mobilization/Misc. Site Prep		(5% of Direct Cost	s)		\$	843,478		
Site Administration		(5% of Direct Cost	s)		\$	843,478		
Permitting/Legal Costs		(2% of Direct Cost	s)		\$	337,391		
Construction Management/Oversight	(10% of Direct Cos	ts)		\$	1,686,956		
		Subto	tal -	Indirect Costs	\$	5,898,259		
	Contingen	cy - 25% of Direct	and	Indirect Costs	\$	5,691,954		
		Т	otal	Capital Costs	\$	28,459,770		
Operation and Maintenance Costs								
Routine Groundwater Monitoring	2	Event	\$	45,000			\$	90,000
Biennial Sampling per CEA (annualized cost)	1	Event	\$	10,000			\$	10,000
Five-year Reviews (annualized cost)	1	(annualized)	\$	5,000			\$	5,000
	Subtotal - O&M Costs						\$	105,000
	Contingency Reserve - 25% of O&M Costs						\$	26,250
Total Annual O&M Costs							\$	131,250
	Net Pr	esent Worth of A	nnu	al O&M Costs	\$	1,242,500		
Total Net Present Worl	th of Alternative				\$	20,844,800		

TABLE B-GW4 - PRELIMINARY COST ESTIMATE GROUNDWATER - ALTERNATIVE 4 INSTITUTIONAL CONTROLS, PUMP AND TREAT, AND TARGETED PERIODIC IN-SITU REMEDIATION

Component	Estimated Quantity	Unit	Est	Estimated Unit Cost		mated Capital Cost		ted Annua M Cost
Capital Costs		l .						
Direct Implementation Costs								
CEA/WRA Submissions	1	LS	\$	75,000	\$	75,000		
Year 1 Groundwater Monitoring	4	LS	\$	45,000	\$	180,000		
Extraction Well, pump, riser, well head, pump	20	EA	\$	1,500	\$	30,000		
Conveyance Trenching/Fill	2,500	CY	\$	40	\$	100,000		
Piping, conduit, wiring, instrumentation	30,000	LF	\$	37	\$	1,110,000		
Treatment Building, Pad, Utilities	7,500	SF	\$	250	\$	1,875,000		
Utilities (sewer, water, electrical)	1	LS	\$	100,000	\$	100,000		
Discharge line	500	LF	\$	150	\$	75,000		
200 gpm Treatment System, includes equipment, installation, labor								
Process Water Tanks	1	LS	\$	150,000	\$	150,000		
Oxidation System	1	LS	\$	500,000	\$	500,000		
Filtration Units	1	LS	\$	400,000	\$	400,000		
Metals Precipitaion System	1	LS	\$	275,000	\$	275,000		
Sludge Processing	1	LS	\$	150,000	\$	150,000		
Carbon Adsorption Units	1	LS	\$	250,000	\$	250,000		
Pumps and Piping	1	LS	\$	150,000	\$	150,000		
Electrical, Instrumentation, Controls	1	LS	\$	1,500,000	\$	1,500,000		
Chemical Feed System	1	LS	\$	175,000	\$	175,000		
		Sub	total	- Direct Costs		\$7,095,000		
Indirect Costs								
Predesign Investigation		Lump Sum			\$	750,000		
Geotechnical Investigation		Lump Sum			\$	150,000		
Remedial Design		10% of Direct Co	sts)		\$	709,500		
Mobilization/Misc. Site Prep		(5% of Direct Cos	ts)		\$	354,750		
Site Administration		(5% of Direct Cos			\$	354,750		
Permitting/Legal Costs		(2% of Direct Cos			\$	141,900		
Construction Management/Oversight		10% of Direct Co			\$	709,500		
<u> </u>		Subto	otal - I	ndirect Costs	\$	3,170,400		
	Contingen	cy - 25% of Direct	and I	ndirect Costs		2,566,350		
		,	Total	Capital Costs	\$	12,831,750		
peration and Maintenance Costs						· ·		
Routine Groundwater Monitoring	2	event	\$	45,000			\$	90,000
Biennial Sampling Per CEA (annualized costs)	1	event	\$	10,000			Ś	10,000
Treatment System		1	Ι.	-,				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Utilities	1	LS	\$	150,000			\$	150,000
Chemicals (oxidant, pH adjustment, etc.)	1	LS	\$	50,000			\$	50,000
Carbon Changeout	1	LS	\$	50,000			\$	50,000
Sludge/Waste Management	1	LS	\$	50,000			\$	50,000
Routine O&M (staffed 40 hrs per wk)	1	LS	\$	320,000			\$	320,000
Non Routine Maintenance	1	LS	\$				\$	
				25,000			\$	25,000
Performance Sampling In-situ Targetted Treatment for Selected Contaminants	1	LS LS	\$	150,000 300,000			\$	150,000 300,000
Five-year Reviews	1	annualized	\$	5,000			\$	5,000
	•	Sul	btotal	- O&M Costs			\$	1,200,00
	Contir	ngency Reserve -	25% c	of O&M Costs			\$	300,00
		Total A	Annua	I O&M Costs			\$	1,500,000
	Net Pro	esent Worth of A	\nnua	I O&M Costs	\$	14,200,200		
Total Net Present Wo	rth of Alternative				\$	24,234,400		

TABLE B-GW5 - PRELIMINARY COST ESTIMATE GROUNDWATER - ALTERNATIVE 5

INSTITUTIONAL CONTROLS, SITE CONTAINMENT AT RIVER EDGE AND FOCUSED IN-SITU REMEDIATION

Component	Estimated	Unit	Estimated Unit		Estimated Capital			
,	Quantity			Cost		Cost	0&1	VI Cost
Capital Costs								
Direct Implementation Costs								
CEA/WRA Submissions	1	LS	\$	75,000	\$	75,000		
1st Year Groundwater Monitoring	4	Event	\$	45,000	\$	180,000		
Sheet Pile Containment Installation	70,000	SF	\$	150	\$	10,500,000		
Fill Between Old and New Wall	975	CY	\$	125	\$	121,875		
Initial Chemical Treatment (organics)	117,750	LB	\$	1.75	\$	206,063		
Inject labor/equipment	25	Day	\$	3,500	\$	87,500		
Round 2 Injections (67% , chemicals and labor)	1	LS	\$	196,687	\$	196,687		
Round 3 Injections (33% , chemicals and labor)	1	LS	\$	98,343	\$	98,343		
		Subt	otal	- Direct Costs		\$11,465,468		
Indirect Costs								
Predesign Investigation		Lump Sum			\$	350,000		
Geotechnical Investigation		Lump Sum			\$	150,000		
Remedial Design	(10% of Direct Cos	ts)		\$	1,146,547		
Mobilization/Misc. Site Prep		(5% of Direct Cost	s)		\$	573,273		
Site Administration		(5% of Direct Cost	s)		\$	573,273		
Permitting/Legal Costs		(2% of Direct Cost	s)		\$	229,309		
Construction Management/Oversight	(10% of Direct Cos	ts)		\$	1,146,547		
		Subto	tal - I	ndirect Costs	\$	4,168,950		
	Contingen	cy - 25% of Direct	and l	Indirect Costs	\$	3,908,604		
		T	otal	Capital Costs	\$	19,543,022		
Operation and Maintenance Costs								
Routine Groundwater Monitoring	2	Event	\$	45,000			\$	90,000
Biennial Sampling per CEA (annualized cost)	1	Event	\$	10,000			\$	10,000
Five-year Reviews (annualized cost)	1	(annualized)	\$	5,000			\$	5,000
Subtotal - O&M Costs							\$	105,000
	Contingency Reserve - 25% of O&M Costs						\$	26,250
Total Annual O&M Costs							\$	131,250
	Net Pr	esent Worth of A	nnua	al O&M Costs	,	\$ 1,242,500		
Total Net Present Worth	n of Alternative				\$	16,326,900		

TABLE B-SW1 - PRELIMINARY COST ESTIMATE SEWER WATER - ALTERNATIVE 1 NO ACTION

Component	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Cos	•	Estimated Annual O&M Cost
Capital Costs						
Direct Implementation Costs						
		Subtota	al - Direct Costs	\$	-	
Indirect Costs						
Remedial Design	(:	10% of Direct Cost	s)	\$	-	
Mobilization/Misc. Site Prep	(5% of Direct Costs	5)	\$	-	
Site Administration	(5% of Direct Costs	5)	\$	-	
Permitting/Legal Costs	(2% of Direct Costs	\$	-		
Construction Management/Oversight	(:	10% of Direct Cost	\$	-		
		Subtotal	- Indirect Costs	\$	-	
	Contingency -	- 25% of Direct an	d Indirect Costs	\$	-	
		Tot	al Capital Costs	\$	-	
Operation and Maintenance Costs						
						\$ -
		Subt	otal - O&M Costs			\$ -
	Contingency Reserve - 25% of O&M Costs					\$ -
		Total A	nual O&M Costs			\$ -
	Net Present Worth of Annual O&M Costs					
Total Net Present V	\$	-				

TABLE B-SW2 - PRELIMINARY COST ESTIMATE SEWER WATER - ALTERNATIVE 2 REMOVAL AND OFF-SITE DISPOSAL

NE.							
Component	Estimated Quantity	Unit				mated Capital Cost	Estimated Annual O&M Cost
Capital Costs							
Direct Implementation Costs							
Removal of Liquids/Solids	1	LS	\$	5,000	\$	5,000	
Pressure Wash Manhole	1	LS	\$	3,000	\$	3,000	
Waste Disposal (liquids, non-haz, T&D)	2,500	Gallons	\$	0.30	\$	750	
Waste Disposal (solids, non-haz, T&D)	2	Drums	\$	250	\$	500	
Disconnect and Grout Pipe and Manhole	1	LS	\$	5,000	\$	5,000	
		Sub	ototal	l - Direct Costs	\$	14,250	
Indirect Costs							
Remedial Design		Lump Sum			\$	5,000	
Mobilization/Misc. Site Prep		(5% of Direct Cos	ts)		\$	713	
Site Administration		(5% of Direct Cos	ts)		\$	713	
Permitting/Legal Costs		(2% of Direct Cos	ts)		\$	285	
Construction Management/Overisght	(10% of Direct Co	sts)		\$	1,425	
	·	Subt	otal -	Indirect Costs	\$	8,135	
	Contingen	cy - 25% of Direc	t and	Indirect Costs	\$	5,596	
			Tota	l Capital Costs	\$	27,981	
Operation and Maintenance Costs							
							\$ -
	ıl - O&M Costs			\$ -			
			\$ -				
Total Annual O&M Costs							\$ -
	Net Pr	esent Worth of	Annu	al O&M Costs	\$	-	
Total Net Present Wor	th of Alternative				\$	24,900	

TABLE B-SG1 - PRELIMINARY COST ESTIMATE SOIL GAS - ALTERNATIVE 1 NO ACTION

Component	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Capital Cost	Estimated Annual O&M Cost		
Capital Costs							
Direct Implementation Costs							
	Subtotal - Direct Costs						
Indirect Costs							
Remedial Design	(:	10% of Direct Cost	rs)	\$ -			
Mobilization/Misc. Site Prep	(5% of Direct Costs	5)	\$ -			
Site Administration	(5% of Direct Costs	\$ -				
Permitting/Legal Costs	(2% of Direct Costs	\$ -				
Construction Management/Oversight	(:	10% of Direct Cost	rs)	\$ -			
		Subtotal	- Indirect Costs	\$ -			
	Contingency	- 25% of Direct an	d Indirect Costs	\$ -			
		Tot	al Capital Costs	\$ -			
Operation and Maintenance Costs							
				\$ -			
	Contingency Reserve - 25% of O&M Costs						
	Total Annual O&M Costs						
	Net Pr	esent Worth of A	nnual O&M Costs	\$ -			

TABLE B-SG2 - PRELIMINARY COST ESTIMATE SOIL GAS - ALTERNATIVE 2

INSTITUTIONAL CONTROLS, AIR MONITORING/ENGINEERING CONTROLS, AND SITE-WIDE ENGINEERING CONTROLS

Component	Estimated Quantity	Unit	Estimated Unit Cost				Estimated Capital Cost			nated Annual D&M Cost
Capital Costs										
Direct Implementation Costs										
Deed Restrictions/CEAs	15	Lots	\$	4,000	\$	60,000				
Initial Round of Indoor Air Monitoring (3/bldg)	21	Sample	\$	1,500	\$	31,500				
		Subtot	al -	Direct Costs	\$	91,500				
Indirect Costs										
Remedial Design	(5% of Direct Costs	s)		\$	4,575				
Site Administration	(\$	915						
Permitting/Legal Costs	(1% of Direct Costs	s)		\$	1,830				
		Subtotal	- In	direct Costs	\$	7,320				
	Contingency	- 25% of Direct an	d In	direct Costs	\$	24,705				
		Tot	al C	apital Costs	\$	123,525				
Operation and Maintenance Costs										
Indoor Air Monitoring	21	Sample	\$	1,500			\$	31,500		
	Subtotal - O&M Costs							31,500		
		Contingency - 25%	% of	O&M Costs			\$	31,500		
Net Present Worth of Annual O&M Costs						341,400				
Total Net Present Worth of Alternative						449,800				

TABLE B-SG3 - PRELIMINARY COST ESTIMATE SOIL GAS - ALTERNATIVE 3

INSTITUTIONAL CONTROLS, SITE-WIDE ENGINEERING CONTROLS, AND IN-SITU REMEDIATION

Component	Estimated Quantity	Unit Estimated Unit Cost		Estir	nated Capital Cost	Estimated Annual O&M Cost	
Capital Costs							
Direct Implementation Costs							
Deed Restrictions/CEAs	15	Lots	\$	60,000			
In-Situ Treatment		•	•				
Initial Chemical Treatment (organics)	570,322	LB	\$	1.75	\$	998,064	
Inject labor/equipment	90	Day	\$	3,500	\$	315,000	
Round 2 Injections (67% , chemicals and labor)	1	LS	\$	879,753	\$	879,753	
Round 3 Injections (33% , chemicals and labor)	1	LS	\$	439,876	\$	439,876	
		Subtot	tal -	Direct Costs	\$	2,692,693	
Indirect Costs							
Delineation/Treatability Study		Lump Sum			\$	200,000	
Remedial Design	(1	10% of Direct Cos	ts)		\$	269,269	
Mobilization/Misc. Site Prep	(5% of Direct Cost	s)		\$	134,635	
Site Administration	(2% of Direct Cost	s)		\$	53,854	
Permitting/Legal Costs	(2% of Direct Cost	s)		\$	53,854	
Construction Management/Oversight	(:	10% of Direct Cos	ts)		\$	269,269	
		Subto	tal -	Indirect Costs	\$	980,881	
	Contingend	cy - 25% of Direct	and	Indirect Costs	\$	918,394	
		Tot	tal C	Capital Costs	\$	4,591,968	
Operation and Maintenance Costs							
							\$ -
	al - O&M Costs			\$ -			
Contingency Reserve - 25% of O&M Costs							\$ -
Total Annual O&M Costs							\$ -
	Net Pr	esent Worth of A	nnu	ial O&M Costs	\$	-	
Total Net Present Worth	of Alternative				\$	4,050,800	